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# Beyond designing: roles of the designer in complex design projects

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## ABSTRACT

Human computer interaction and interaction design have recognised the need for participatory methods of co-design to contribute to designing human-centred interfaces, systems and services. Design thinking has recently developed as a set of strategies for human-centred co-design in product innovation, management and organisational transformation. Both developments place the designer in a new mediator role, requiring new skills than previously evident. This paper presents preliminary findings from a PhD case study of strategy and innovation consultancy Second Road to discuss these emerging roles of design lead, facilitator, teacher and director in action.

## Author Keywords

Design thinking, interaction design, role of the designer, design facilitation.

## ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## INTRODUCTION

Interaction design recognises the need for participatory human centred approaches to designing interfaces and systems. Moggeridge (2007), for example, details the emergence of human-centred design methods at IDEO and the expansion of interaction design from product innovation through to social innovation (see Brown & Wyatt 2010).

Design thinking is a more recent designation for such human-centred design processes and operates across a broad range of fields. Design thinking engages users throughout the process, where designers and users (often not trained in design) use their 'collective creativity' to co-design solutions to problems (Sanders & Stappers, 2008). Consequently,

the designer is positioned as facilitator for problem-solution finding.

Whilst human centred co-design processes recognise the changing role of the designer, the literature offers limited insight into new roles designers are embodying and how these are enacted in practice. Case studies instead focus primarily on outlining design processes and design outcomes. Through preliminary findings of a case study of consultancy Second Road this paper discusses the roles designers embody in complex design projects of design lead, facilitator, teacher and director.

## LITERATURE REVIEW

### What is design thinking?

Design thinking emerged from the design methods movement (Buchanan, 1992), a stream of research focused on understanding the thought processes and methods behind design practice. Buchanan (1992) shifted the concept of design thinking to a more intellectual approach of problem framing and solving which could be applied to anything, tangible object or intangible system. (Kimbell, 2009). For Buchanan (1992), design problems are complex or 'wicked' (as coined by Rittel & Webber, 1973). These design practices that deal with wicked problems 'require a different approach in that they need to take longer views and address larger scopes of inquiry' (Sanders & Stappers, 2008, p.11).

As design thinking has grown in awareness and popularity its use across industries has been ever expanding. In the past decade it has grown to address business and management (Brown, 2008; Dunne & Martin, 2006); strategy (Golsby-Smith, 2007); organisation redesign (Jenkins, 2008); healthcare (Brown, 2008; Duncan & Breslin, 2009); community services (Bell, 2008) and more recently social innovation (Brown & Wyatt, 2010).

Definitions and descriptions of design thinking vary in depth and character across the literature however hold several commonalities. Design thinking denotes a collaborative and human centred problem solving process using a designerly approach to solve wicked problems, extending from products through

to services and other design spaces.

### **Interaction design & design thinking commonalities**

The phenomenological shift in interaction design to better understand the relationship between people and their environments is closely related to the human centred underpinnings of design thinking (Ciolfi & Bannon, 2007). This recognises that human experience and the understanding of place influence design activity and the design of new technologies in physical environments (Ciolfi & Bannon, 2007). This brings to the foreground user experience and interaction as outcomes as well as the ways such interaction can be facilitated during the design process (Battarbee, 2005). Such an approach highlights the need for physical and not just digital engagement with users, moving from 'cognitive' walkthroughs evaluating interfaces and interactions to 'physical' space walkthroughs using participatory design (Ciolfi & Bannon, 2007, p.172). Design thinking offers an approach for physical engagement of users within the design process.

The manner in which interaction design and design thinking approach these problems is very similar. As interaction design is increasingly occupied with understanding the holistic experience of humans within systems and all forms of interaction — physical and technological — it is converging with design thinking. Design thinking offers an approach to facilitate user experience and interaction toward holistic outcomes. In both cases, designers are taking on facilitation co-creator roles.

### **SECOND ROAD CASE STUDY**

Second Road is a strategy and innovation consultancy in Sydney, Australia. In mid-2010, a mid-tier engineering company engaged Second Road to redesign how the company developed and communicated its value propositions to prospective clients. This four month project used a design thinking approach and a co-design team of three Second Road consultants and a multidisciplinary team of six from the engineering company.

The final project outcomes included a new conversation based client engagement process for business development and tools to support this process in the form of visual models, stories and conversation pathways. Implicitly it also resulted in building design thinking capability amongst the engineering project team members.

### **Methodology**

The design thinking practices of Second Road were examined through methods of semi-structured interviews and an audit of a client project.

### **Interviews**

Semi-structured interviews were conducted with 12 Second Road employees, comprising a representative sample across all areas of the organisation, including designers and non-designers, and various levels of experience and seniority. Interviews ranged in length from 30 to 60 minutes. To develop an understanding of Second Road design thinking practices, questions focused on experiences of applying design thinking in organisations and the tools and methods used.

### **Project audit**

A project audit focused on one client project that used a design thinking approach and co-creation methods. Artifacts such as dialogue maps, activity visualisations, prototypes and the final report were reviewed to develop an understanding of the project. This formed the basis for an in-depth semi-structured group interview conducted with the Second Road project team. Interview questions examined the application of design thinking in practice on a client project. From this, a rich picture of the application and outcomes of design thinking within a complex organisational setting emerged.

### **Analysis**

All interviews were transcribed and subject to content analysis through a process of grounded theorising. The content analysis was systematic and iterative and continued until the categories reached sufficient meaning (Tesch, 1990).

### **ROLES OF THE DESIGNER**

Emerging from this case of Second Road are four inter-related and interdependent roles the designer embodies within complex design projects: design lead, teacher, facilitator and director.

### **Design lead**

As co-design increasingly becomes the norm, designing is shifting to be the responsibility of a collective creativity rather than a single entity. Designers in this case, often embody the role of the design lead. This recognizes the need for design expertise in guiding a team often not design trained through a design process as well as accountability for final design outcomes. Beckman & Barry (2007) acknowledge the design leader within their research noting that teams with someone to move them through the innovation process outperformed others.

In this case, Second Road acted as subject matter experts in design, providing a foundation for co-design with the multidisciplinary client project team. The co-design process was structured through guided activities and facilitated conversation rather than free flowing. Participant 4 (Group Interview)

reflected 'The material that we talk about is the material of the process of design'.

The role of the design lead recognises that while all aspects of the project can be co-created they may not be co-designed. Second Road separately synthesized and made sense of much of the information from conversations and activities. From this Second Road then developed visualisations and prototypes for the purpose of moving forward more efficiently through rich discussion and testing with the client project team.

Whilst not needing expertise in the specific problem details or content, the design lead needs to be able to 'bring diverse experts together in coordinated effort' (Owen, 2006, p.24). The role of design lead moves the designer out of the traditional solo design expert role and into being a design subject matter expert leading a multidisciplinary team.

#### **Teacher**

The role of design lead feeds directly into designer as teacher. From the interview study, the concept of design thinking as 'the way that designers helped other people to think' emerged (Interviewee 6). This fundamentally shifts the designer's role to one of teaching and capability building through the experience of a design process.

During the project, teaching was explicit through delivering several design training workshops to build capability. It was also implicit through project design and facilitation where Second Road demonstrated mindfulness and agility in responsively guiding participants through the design process. Participant C (Group Interview) stated 'you're not just educating...you're growing the person's capacity to learn...their interest, their intrigue about what they came for, their confidence'. Additionally, social learning and 'knowledge transfer' occurred through facilitated conversations and activities developing self-efficacy or 'authorship' (Participant C, Group Interview). This recognises design thinking is partly an education process, an experiential one at that, best learned through doing rather than explaining. As Dym et al (2006, p.112) states 'design is both a mechanism for learning and in itself a learning process'.

#### **Facilitator**

Designer as facilitator guides the co-design process while also creating a safe environment for people to participate. Participant A (Group Interview) stated it was about 'creating an environment, a very carefully structured environment of which people could walk into feeling confident that they could come to it themselves'. They went on to discuss that

facilitation wasn't about the designers solving the problem but deliberately shaping an environment so people could get there themselves.

Within the Second Road project, facilitated conversation was a primary method. Participant D (Group Interview) describes facilitating good conversation as recognising the purpose for the conversation, understanding the intent of it, ensuring its progress in the right direction and applying judgement to determine if it's advancing the objective. Participant C (Group Interview) summed this up as understanding the rhythm and energy of the conversation and the participants involved. In this way, facilitation relies heavily on empathy, active listening, and mindfulness.

Golsby-Smith (2007), founder of Second Road, emphasises this need for skillful facilitation of conversation where the facilitator is trained in the art of design rather than group dynamics. Golsby-Smith (2007, p.29) states: 'They [the design facilitator] bring the design skills and methodology; the group brings the design problem and design instincts'. The purpose for this is being able to guide a social co-design rather than private design process.

#### **Director**

Complementary to the role of facilitation, is the role of director. It acknowledges the performatory nature of creating an orchestrated experience of design. Participant C (Group Interview) stated 'the idea is creating some sort of experience that enables direct participation or engagement as opposed to...sitting on the sidelines...it goes hand in hand with...education'.

Within the project, the role of director was especially evident in the prototyping phase. This involved experiential prototyping of two conversation designs for business development purposes. This was a highly orchestrated experience, working with an ex-CEO to build a realistic scenario and then enact it with the client project team as the performers. It involved significant direction from Second Road in organising and structuring the flow of the event. This experiential prototyping provided the richest learning experiences for Second Road and the client project team alike. As Participant C (Group Interview) reflected 'I strongly believe in the power of the experience...and conversation has the bigger experiential dimension to it than a manual has or a presentation or a even an interview in the sense of that knowledge gathering'.

Creating and directing an orchestrated design experience may be a physical or mental occurrence. Interviewee 10 discussed such examples as getting

people to imagine themselves into a story or immersing them into an environment. The designed experience is a significant tool as through this experience and the reflection on what occurs is what the designer is often designing from (Interviewee 10). In this way, the directed experience works on two levels – in progressing the objectives at hand, as well as providing a rich experience of design. It also serves a teaching function, providing experiences for participants to perceive the world in new ways.

## CONCLUSION

Interaction designers, as design thinkers, are being called upon to act in wicked problem spaces where there is little precedence and where the skills and roles required of the designer are diversifying. This requires more than skilled and experienced interaction design professionals. It also requires further roles as design lead, teacher, facilitator, and director. These roles are deeply human in execution throughout the design process as well as in design outcome. This relies on new skills such as learning design, active listening, mindfulness and coaching for the designer to successfully embody and move fluidly between these roles. It also requires relinquishing control, instead acting as guide through a co-design process. Most importantly however, is the need for strong leadership in order to engage and collaborate with multidisciplinary teams toward meaningful outcomes. Owen (2007) recognises this also, discussing that whilst all these characteristics are present within design education, they are implicit within the curriculum and instead need to be taught explicitly as design competencies.

This paper presents preliminary findings from one case study of an organisation demonstrating the changing role of the designer. The four roles discussed of design lead, teacher, facilitator and director are interrelated and interdependent in leading a complex design project to a successful outcome. This fundamentally changes the demands on a designer and the skills they require to navigate successfully through a co-design process.

This paper contributes to the conference theme of design, culture and interaction through its focus on the role of the designer within a complex design project. This expanding role of the designer takes into consideration creating meaningful interactions between participants in order to design an outcome appropriate to the culture and context of the environment. As this represents preliminary findings of one case this research has significant limitations. Further research is recommended to determine if these new roles of the designer are generalisable to other design disciplines or contexts.

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